Specifications for Painting & Varnishing with notes thereon

PRATT & LAMBERT—Inc.

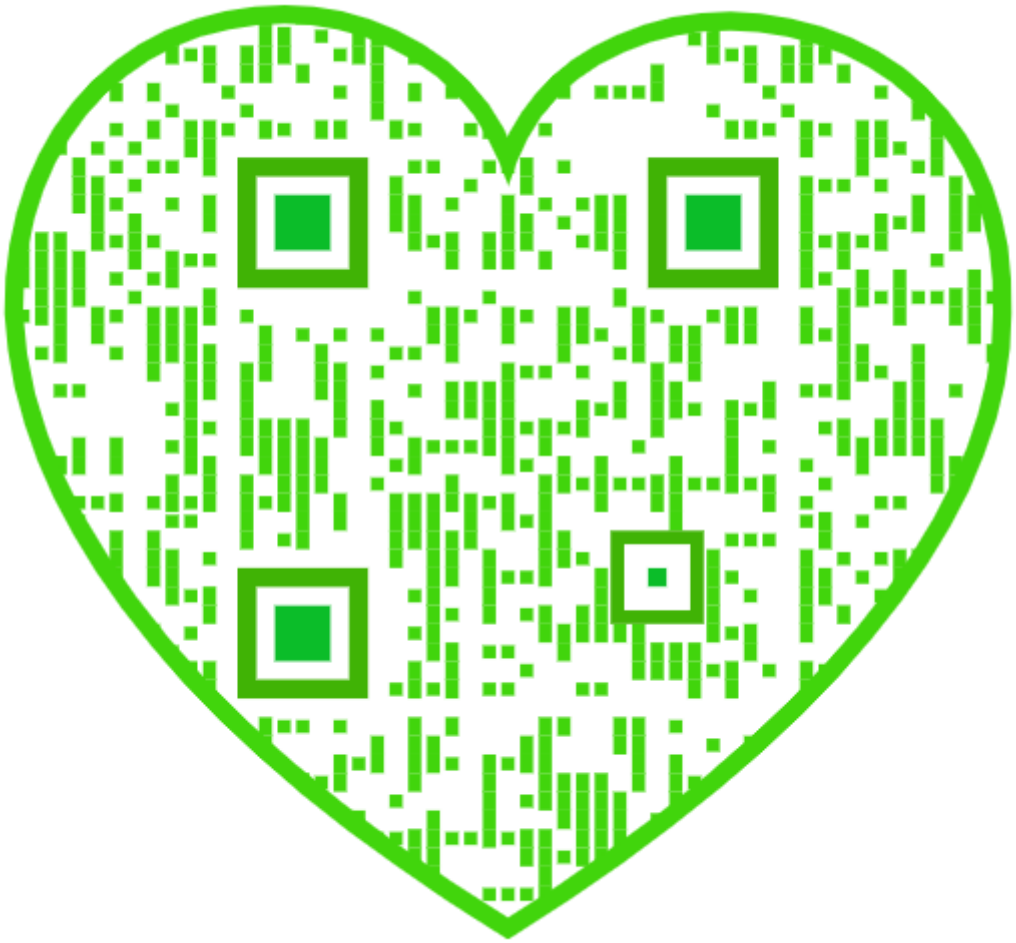
VARNISH MAKERS

FACTORIES

NEW YORK · BUFFALO · CHICAGO

LONDON · PARIS · HAMBURG

BRIDGEBURG, CANADA



SPECIFICATIONS

FOR

PAINTING AND VARNISHING

WITH PRACTICAL NOTES
THEREON

PUBLISHED BY

PRATT & LAMBERT—INC.

VARNISH MAKERS

NEW YORK BUFFALO CHICAGO
LONDON PARIS HAMBURG
BRIDGEBURG, CANADA

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BEING COMPLETE SPECIFICATIONS FOR PAINTING AND VARNISHING, WITH PRACTICAL NOTES ON WOOD FINISHING

FOR THE AID OF

ARCHITECTS AND BUILDERS
IN PREPARING SPECIFICATIONS
AND EXECUTING WORK

For

COMPLIMENTS OF

REPRESENTING

PRATT & LAMBERT—INC.

VARNISH MAKERS

NEW YORK
LONDON
BUFFALO
PARIS
BRIDGEBURG, CANADA
CHICAGO
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ALL works of quality must bear a price in proportion to the skill, time, expense and risk attending their invention and manufacture. Those things called dear are, when justly estimated, the cheapest; they are attended with much less profit to the artist than those which everybody calls cheap.

Beautiful forms and compositions are not made by chance, nor can they ever, in any material, be made at small expense.

A composition for cheapness, and not for excellence of workmanship, is the most frequent and certain cause of the rapid decay and entire destruction of arts and manufactures.

Ruskin

Foreword

FOR more than three score years, since 1849, we have been making the higher grade varnishes for architectural work. House varnishes have been our specialty.

Pioneers in the manufacture of architectural varnishes, we were the first to enter the field of "special finishes" which have become so important a factor in the work of wood finishers and decorators.

Every article we make is as good as we know how to make it. Our goal is quality, and not low price.

The cost of materials is dependent upon the character of the work in hand, hence we must supply goods of various degrees of quality.

We aim to supply the best for each need, demanded by varying conditions.

For exterior work, requiring durability above every other consideration, we make one, and only one varnish.

This has the maximum amount of durability for the requirements of this class of work.

For floors, too, we believe only one grade of varnish advisable, and that as good as it is possible to make it.

With interior woodwork, requirements are more complex and we must supply a variety of varnishes.

One must be light in color for the lightest woods and tints.

One must be fitted to endure extreme conditions.

One must polish.

One must rub.

One must dry flat.

These conditions, so antagonistic to each other, demand varnishes of different characters.

We fully realize this wide diversity, and our experience and unequaled facilities enable us to satisfy all reasonable demands, from the highest grade and finest character of cabinet work, down to that point where price and quality both still make for economy, but below which quality is sacrificed to the extent that economy ceases.

ADVISORY DEPARTMENT

During a period of over sixty years, we have learned a good deal about wood finishing and varnish making and are always glad to help you with your wood finishing problems. But, our ability to do so is determined by the opportunities you give us and by the faith you have in us. Owing to the many inquiries for information, advice and suggestions, we have instituted a special service department, the Advisory Department.

This department, with its complete corps of varnishing and finishing experts, is at your disposal at all times. Should any question arise as to the possibility of securing certain effects on the woodwork of any building, we will be glad to supply sample panels of such effects, or finish pieces of wood of your selection, if sent us with information to give us an idea of the effect desired.

Please feel free to avail yourself of this service. There is no charge, as we are always glad to be of help.

Address: The Advisory Department, Pratt & Lambert, Inc., 75-97 Tonawanda St., Buffalo, N. Y.

List Descriptive of Pratt & Lambert Architectural Specialties

SPAR FINISHING VARNISH

A durable, wear and weather resisting varnish of rare quality. This varnish is made for exterior work of every description where varnish can be used, as on front doors, porch ceilings, pavilions and the like. By reason of its durability, it is generally acknowledged the most serviceable varnish made for sea-going crafts of every kind. It is well to use it as a finishing coat on inside work around windows, in bathrooms, kitchens, laundries, etc., where frequent wetting or considerable moisture may occur.

"61" FLOOR VARNISH

This well known varnish will withstand the most severe wear to which a floor varnish may be subjected. It is exceedingly tough, will not mar or scratch white, and is not affected in any way by moisture or water.

"38" PRESERVATIVE VARNISH

This varnish is intended for high grade interior work. It may be rubbed or polished, is tough, elastic and durable, and is impervious to moisture or water. It probably combines, more than any other varnish, the properties essential to meet successfully the varying conditions attending the finishing of interior woodwork of new and old buildings.

"110" CABINET VARNISH

This varnish, very similar to our "38" Preservative Varnish previously described, is a splendid, durable, rubbing varnish intended for work of an average character where economy of time and money must be considered.

It is exceptionally well suited for schools, churches, apartment houses, etc.

In point of general all around merit, it is not approached by other varnishes sold at the same price.

ALCOLAC

Alcolac is to be used as an interior first-coater for hard and soft woods. It is a liquid pigment primer which fills and seals the pores of the wood and yet is so elastic that it never cracks, as do cheap liquid fillers. It makes a splendid foundation for subsequent coats of varnish and causes the finishing coat to stand out with a full body and rich gloss.

PALEST INTERIOR VARNISH

On account of the unusual paleness and transparency of this varnish, it is recommended for the finest interior work over light colored woods and light tints and stains.

Its virtue lies in its extreme paleness. For woodwork, the color of which does not demand this characteristic, we recommend our "38" Preservative Varnish before mentioned.

Descriptive list
Spar Finishing Varnish
"61" Floor Varnish
"38" Preservative Varnish
"110" Cabinet Varnish
Alcolac
Palest Interior Varnish

HYGIENIC GLOSS FINISH

This varnish is the result of our effort to meet the demands made of an interior varnish, for work in hospitals, institutions, etc., where the conditions are peculiarly severe.

It is prepared by a process entirely different from that employed in the manufacture of other varnishes, and the result is a permanent gloss finish, which is not affected by hot or cold water, nor by the fumes of disinfectants.

PUBLIC BUILDING VARNISH

This varnish is made in exact accordance with the formula contained in the specifications for all public work, under the supervision of the Treasury Department at Washington.

DULKOTE

An invisible preservative, producing a dull or flat velvety finish, free from the appearance of any coating, and resembling a rubbed finish, but requiring no rubbing.

It may be used over any colored woods or stains, without affecting, in the least, the most delicate tints.

Most of the "dead finishes" or "flatting" preparations acquire their "flattening" properties through the agency of wax contained in them—there is not a particle of wax in Dulkote.

It is superior to a wax finish, in that it preserves the wood, absorbs no dust or dirt, requires less care and does not need renewing frequently, as is the case with wax.

It is easily applied, is economical and lasting.

Unlike most flat finishes, one coat only of Dulkote is necessary.

VITRALITE

"The Long Life Enamel"

Vitralite is the result of many years of persistent, scientific tests and experiments on the part of our associates, the leading English Varnish manufacturers, Robert Ingham Clark & Co. It has been the standard high-grade enamel of Europe for more than a quarter of a century.

The permanency of Vitralite has been established beyond question by the most rigid tests of time and exposure under the severest conditions. It retains its whiteness, will not crack and is practically indestructible indoors; wears for years out of doors. Vitralite will withstand repeated washing, not being affected in either appearance or durability and can be used successfully on all kinds of surfaces, wood, metal, or plaster, indoors or out-of-doors.

This exceptional enamel dries with a full rich gloss which rubs splendidly. It "flows out" perfectly and works as freely under the brush as the finest finishing varnish. Its covering capacity is much greater than ordinary enamels.

Although Vitralite is made only in the white, it may be brought to any tint by mixing with it thoroughly the necessary quantity of desired color, ground in Japan.

The unequaled durability of Vitralite and its economy of application, make it practicable for every class of buildings. Different enamels are not required for different purposes as is the case with varnishes.

EGGSHELL VITRALITE

This is Vitralite in the dull or eggshell form.

It produces a very attractive dull finish, approaching closely the effect of rubbed work, though merely brushed on, eliminating the expense of rubbing.

KRYSTALINE WHITE ENAMEL

This is a white, opaque, glossy and easy flowing enamel, much superior to the usual domestic enamels.

It is recommended in place of Vitralite, where work must be done very quickly and economy of time must be exercised.

EGGSHELL KRYSTALINE WHITE ENAMEL

Eggshell Krystaline White Enamel bears the same relation to Krystaline White Enamel as Eggshell Vitralite does to Vitralite, and will give splendid satisfaction for the purpose for which it is intended.

ENAMEL UNDERCOATING

Enamel Undercoating is a snow-white, opaque liquid, being neither a paint, varnish or enamel.

It is especially intended for undercoats for enamel work to be used over a first coat of lead and oil.

It produces a very much whiter coat than lead and separates the first coat of lead and oil from the subsequent coats of enamel, not permitting the oil in the first coat of lead to become absorbed by the finishing coats of enamel, which is one of the chief causes of an enamel turning yellow and sinking away.

Use of Pratt & Lambert Enamel Undercoating adds to the durability of the finish. It covers much better than lead and zinc, and produces a whiter finish which is permanent.

We recommend Pratt & Lambert Enamel Undercoating for use not only in connection with Vitralite but for all enamels.

STAINS AND FILLERS

In consequence of the general awakening in recent years to the great possibilities of treating woods with stains and fillers, a new field has been opened to the manufacturers of varnishes.

Our aim has been to supply a line of stains and fillers of a quality as superior as that of our regular architectural varnish specialties.

Descriptive list Krystaline White Enamel
Eggshell Vitralite Eggshell Krystaline White Enamel
P. & L. Enamel Undercoating, Stains and Fillers

The same care in selection of raw materials, the same thoroughness in their making, the same study of their effects, characterizes the manufacture of our stains and fillers.

We offer to produce every practical effect known to the finisher's trade.

We claim for our system a unique distinction—simplicity. Any mechanic of average skill can get the desired effects with our stains and fillers.

One application only of these stains is necessary.

No waiting for the action of one stain upon another, with all the ensuing uncertainty of results and the added expense of an extra coat.

No cost of labor and material in "equalizing" the various shades of the wood—"equalizing" is not necessary with these stains.

Simply an application of the stain or filler, with varnish or Dulkote applied over it, as may be desired.

The variety of possible effects is limitless.

For this reason we discontinued the general practice of naming effects, exemplified by "Flemish," "Cathedral," "Weathered Oak," "English," etc., and instead of this have adopted a system of numbering, which at once indicates the character of the finish.

Scope of Specifications

The following specifications, covering in a general way the various methods of staining, filling and finishing woods, as well as the notes and suggestions following thereafter, are gathered from the practical experience of expert finishers who have made a life-long study of the treatment of woods and their peculiarities.

Obviously no specifications can be drawn for interior finish work that can be applied to every job, neither is it probable that the work on any one building will ever be of such variety as to embody every kind of finish.

Our ability, therefore, to give a form specification that may be applied to every character of work is limited to giving directions and specifications for securing the most practical and satisfactory results of a variety sufficient to cover practically all of the different kinds of interior finish work employed in modern construction. This we have aimed to do and we trust the suggestions and information on the following pages may prove useful. We solicit opportunities to be of service and are prepared to give expert advice and suggestions in connection with the specifications for the finishing of woodwork, etc., or the execution of the work itself—the work of the Advisory Department, as mentioned on page 8, being devoted to this service alone.

General Conditions

General conditions, specifications, labor and material for painting, varnishing and enameling a

.....

to be erected for.....

at.....

In accordance with the accompanying drawings, details and specifications under the supervision of

.....Architect

.....Address

Date.....

These specifications are intended to cover the painting, staining, varnishing and enameling and entire finishing of all woodwork throughout the interior and exterior of the building, unless otherwise specified.

The finishing of all plastered surfaces shall be as specified.

The Contractor shall furnish all materials, utensils, scaffolding, labor, transportation, etc., required for the performance of the work herein specified, except as otherwise particularly mentioned. He shall keep a competent foreman on the premises; shall not sublet any part of his work without the written consent of the Owner, or Architect; shall be responsible for all damage to the property, or the work of other contractors, caused by him or his employees, and must take all necessary precaution to properly protect his work during progress.

Extra work performed by the Contractor will not entitle him to any additional payment above the cost agreed upon, for this contract, unless said extra work is specifically ordered and authorized, in writing, by the Architect or his Superintendent.

The Architect or his Superintendent shall have the right to reject any or all work or material, which in his opinion does not conform with the meaning and intent of the specifications in the accompanying drawings, and reserves the right to replace same at the expense of the Contractor.

All materials are to be the best of their several kinds in quality as herein specified; all labor is to be performed in the best manner by skilled workmen and both are to be subject to the approval of the Architect.

When special makes or grades of prepared paint, varnish or wood finish are called for, such material must be delivered at the building in the original cans with the seals unbroken and labels

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When special makes or grades of prepared paint, varnish or wood finish are called for, such material must be delivered at the building in the original cans with the seals unbroken and labels attached, and such cans are not to be opened until inspected and approved by the Architect. All varnishes must be used just as they come from the manufacturer without any reducing or alteration.

Should anything be omitted from the drawings or specifications which is necessary to a clear understanding of the work, or should any error appear, it shall be the duty of the Contractor to notify the Architect before proceeding with the work. In the event of the contractor failing to give such notice, he shall make good any damage to or defect in his work caused thereby.

The drawings and specifications furnished for this work are to be considered instruments of service, are to be used for this building only, are the property of the Architect and must be returned to him immediately on the completion of the work set forth herein.

At the completion of the work, the Contractor shall clear out all rubbish and surplus material left by him, shall clean off all paint and varnish spots from the floors, glass, walls, etc.; shall repair any damage to his work, no matter by whom caused (loss or damage by fire excepted) and leave the premises broom clean and in perfect repair and order, so far as his work is concerned.

The Painter is referred to the Carpenter's specifications for the amount of woodwork to be finished.

The Owner reserves the right to accept any, or reject any or all proposals presented.

Methods of Procedure

Exterior

Preparation Cover all sap, knots and defects in woodwork, which is to be painted, with a good coat of pure grain alcohol shellac before priming.

Putty up all nail holes, cracks or defects after priming.

Painting Paint all exterior woodwork with three coats of pure linseed oil paint in colors as directed.

Shingle Staining All shingles are to be dipped three-fourths of their length in (specify make) shingle stain before putting on, the colors to be as directed.

Metal Painting Paint all tinwork of roofs, gutters, valleys, etc., and all ironwork with two coats of best quality of metallic or graphite paint over the priming coat, of color as may be selected.

Exterior Varnishing open-grained woods Apply one coat of Pratt & Lambert Paste Wood Filler (specify color), which when set, clean off thoroughly. When hard, sand lightly and apply one coat of Pratt & Lambert "61" Floor Varnish and finish with two coats of Pratt & Lambert

Spar Finishing Varnish; each coat of varnish to he lightly sanded with fine sandpaper hefore the succeeding coat is applied.

Exterior Varnishing close-grained woods

Apply one coat of Pratt & Lambert "61" Floor Varnish and finish with two coats of Pratt & Lambert Spar Finishing Varnish, each coat of varnisb to be lightly sanded with fine sandpaper before the succeeding coat is applied.

NOTE—If other than the natural finish is desired on close-grained woods, specify one coat of Pratt & Lambert Oil Stain (specify color), then finish as specified for close-grained woods.

Methods of Procedure

Interior

Preparation

All woodwork that is to have a varnish or enamel finish must he smooth, clean and dry and properly prepared to receive the finish.

All necessary puttying of nail holes. cracks, etc., shall he done after the first coating, witb putty of a color to match that of the finish.

Before this work is hegun, scratches or cuts and defects in the wood must he ohliterated.

The Painter must inspect all woodwork, floors and plastered surfaces wbich are to he finished by him, and if such work is not in proper condition for finishing, be must notify the Architect.

Graining Work

All work to he grained shall have one coat of pure linseed oil paint of such color as may be selected, then one coat of flat paint suitable for a ground color, then one coat of graining color, grained and shaded to imitate, as closely as possible, the desired wood. This is to be finished, when thoroughly dry, with two coats of Pratt & Lambert "38" Preservative Varnish.

Oak, Ash, Chestnut, Elm and Butternut Woodwork

Effects such as Natural, Antique, Golden, etc., with varnish finish

Above woods shall have one coat of Pratt & Lambert Paste Wood Filler (specify color); then three coats of Pratt & Lambert "38" Preservative Varnish, ligbtly sanded between coats. Of final coat specify whether left in the natural gloss, ruhhed to an eggsbell finish or polished. (See Rubbing and Polisbing.)

Effects produced by the use of Acid Stains and Paste Fillers with varnish finish

Above woods sball be first sponged witb cold water and sanded smootb when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), then one coat of white shellac, then one coat of Pratt & Lambert Paste Wood Filler (specify color), then one coat of white shellac and two coats of Pratt & Lambert "38" Preservative Varnisb, lightly sanded between coats. This, however, applies only to two-toned effects (stain of one color, filler of another). Where tbe filler is of the same color as the stain, the coat of shellac sbould he omitted between thc stain and the fillcr. Of final coat specify whether left in the natural gloss, rubbed to an eggsbell finish or polisbed. (See Rubbing and Polisbing.)

Effects produced by the use of Paste Fillers and Oil Stains with varnish finish

Above woods shall bave one coat of Pratt & Lambcrt Paste Wood Filler (specify color), then one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Alcolac and two coats of Pratt & Lambert "38" Preservative Varnish ligbtly sanded between coats. Of final coat specify wbetber left in the natural gloss, rubbed to an eggshell finisb or polished. (See Rubbing and Polishing.)

NOTE—Where the lighter toned stains are used as the lighter grays, blues, greens, etc., specify Pratt & Lambert Palest Interior Varnish, on account of its exceeding paleness.

NOTE—In place of "38" Preservative Varnish, where specified in the foregoing specifications, specify "110" Cabinet Varnish, where economy of first cost is necessary.

Dull finish without rubbing. Effects with Paste Fillers

Above woods shall bave one coat of Pratt & Lambert Paste Wood Filler (specify color). then one coat of white shellac, sanded lightly, and one coat of Pratt & Lambert Dulkote.

Dull finish without rubbing. Effects with Acid Stains and Paste Fillers

Above woods sball be first sponged witb cold water and sanded smootb, wben dry, tben have one coat of Pratt & Lambert Acid Stain (specify color), tben one coat of white shellac, sanded ligbtly, tben one coat of Pratt & Lambert Pastc Wood Filler (specify color), tben one coat of wbite shellac, sanded lightly, and one coat of Pratt & Lambert Dulkote.

Dull finish without rubbing. Effects with Paste Fillers and Oil Stains

Above woods sball have one coat of Pratt & Lambert Paste Wood Filler (specify color), then one coat of Pratt & Lambert Oil Stain (specify color), tben one coat of white shellac, sanded lightly, and one coat of Pratt & Lambert Dulkote.

Dull finish without filler. Effects with Acid Stains

Above woods sball be first sponged witb cold water and sanded smooth when dry, then have one coat of Pratt & Lamhert Acid

attached, and such cans are not to be opened until inspected and approved by the Architect. All varnishes must be used just as they come from the manufacturer without any reducing or alteration.

Should anything be omitted from the drawings or specifications which is necessary to a clear understanding of the work, or should any error appear, it shall be the duty of the Contractor to notify the Architect before proceeding with the work. In the event of the contractor failing to give such notice, he shall make good any damage to or defect in his work caused thereby.

The drawings and specifications furnished for this work are to be considered instruments of service, are to be used for this building only, are the property of the Architect and must be returned to him immediately on the completion of the work set forth herein.

At the completion of the work, the Contractor shall clear out all rubbish and surplus material left by him, shall clean off all paint and varnish spots from the floors, glass, walls, etc.; shall repair any damage to his work, no matter by whom caused (loss or damage by fire excepted) and leave the premises broom clean and in perfect repair and order, so far as his work is concerned.

The Painter is referred to the Carpenter's specifications for the amount of woodwork to be finished.

The Owner reserves the right to accept any, or reject any or all proposals presented.

Methods of Procedure

Exterior

Preparation Cover all sap, knots and defects in woodwork, which is to be painted, with a good coat of pure grain alcohol shellac before priming.

Putty up all nail holes, cracks or defects after priming.

Painting Paint all exterior woodwork with three coats of pure linseed oil paint in colors as directed.

Shingle Staining All shingles are to be dipped three-fourths of their length in (specify make) shingle stain before putting on, the colors to be as directed.

Metal Painting Paint all tinwork of roofs, gutters, valleys, etc., and all ironwork with two coats of best quality of metallic or graphite paint over the priming coat, of color as may be selected.

Exterior Varnishing open-grained woods Apply one coat of Pratt & Lambert Paste Wood Filler (specify color), which when set, clean off thoroughly. When hard, sand lightly and apply one coat of Pratt & Lambert "61" Floor Varnish and finish with two coats of Pratt & Lambert

and two coats of Pratt & Lambert "38" Preservative Varnish lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.) The finish with Acid Stains on these woods while artistic will not be as smooth and even as when an Oil Stain is used.

NOTE—In place of "38" Preservative Varnish, where specified in the foregoing specifications, specify "110" Cabinet Varnish, where economy of first cost is necessary.

Dull finish with Acid Stains no rubbing

Above woods shall be first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), then one coat of white shellac sanded lightly and one coat of Pratt & Lambert Dulkote. The finish with Acid Stains on these woods while artistic will not be smooth and even as when an Oil Stain is used.

Dull finish with Oil Stains no rubbing

Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Pratt & Lambert Alcolac or white shellac sanded lightly, then one coat of Pratt & Lambert Dulkote.

Simpler method, flat finish

Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), and one coat of Pratt & Lambert Dulkote.

NOTE—Specify Spar Finishing Varnish as a final coat on all woodwork around windows, in kitchens, laundries, etc., or wherever there is likely to be a great deal of moisture or water coming in contact with the finished surface. The undercoatings of such woodwork should be "38" Preservative Varnish.

Enamel work Vitralite

The woodwork of (specify where) to be cleaned thoroughly and sanded perfectly smooth, then given a coat of lead and oil sanded smooth, and two coats of Pratt & Lambert Enamel Undercoating, each coat sanded lightly, then one coat of Pratt & Lambert Vitralite Enamel; when thoroughly hard, smooth off with steel wool or fine sandpaper, and apply a second coat of Pratt & Lambert Vitralite.

NOTE—Specify whether final coat is to be left in the gloss or rubbed to a dull finish.

NOTE—If a rubbed finish is desired, three coats of Vitralite are recommended, the final coat of Vitralite being rubbed with pumice stone and water.

Dull or Eggshell Enamel finish, with-

The woodwork of (specify where) shall be cleaned thoroughly and sanded perfectly smooth, then have a coat of lead and oil, sanded smooth, then two coats of Pratt & Lambert Enamel

Stain (specify color), then one coat of white shellac, sanded lightly, then one coat of Pratt & Lambert Dulkote.

Dull finish without filler. Effects with Oil Stains — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), then one coat of white shellac, sanded lightly, and one coat of Pratt & Lambert Dulkote.

Simpler method, flat finish — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), sanded lightly, and one coat of Pratt & Lambert Dulkote.

Baywood and Mahogany Woodwork

Natural varnish finish using Paste Filler — Above woods shall have one coat of Pratt & Lambert Light Paste Wood Filler, tinted to shade desired, then one coat of shellac, sanded lightly, then two coats of Pratt & Lambert "38" Preservative Varnish, sanded lightly between coats. Of final coat specify whether left in natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

Stained varnish finish, using Acid Stain and Paste Filler — Above woods shall be first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), sanded lightly, then one coat of Pratt & Lambert Paste Wood Filler (specify color), then one coat of shellac, sanded lightly, and two coats of Pratt & Lambert "38" Preservative Varnish, lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

NOTE—Satisfactory color effects on these woods are limited to the light and dark mahogany stains and fillers, the Tuna mahogany stains and fillers, and the brown stains and fillers.

Maple, Birch, Cherry and Beech Woodwork

Natural varnish finish — Above woods shall have one coat of Pratt & Lambert Alcolac and two coats of Pratt & Lambert "38" Preservative Varnish, lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

Effects produced with Acid Stains varnish finish — Above woods shall be first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), then one coat of white shellac and two coats of Pratt & Lambert "38" Preservative Varnish, lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

Effects produced with Oil Stains varnish finish — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Pratt & Lambert Alcolac and two coats of Pratt & Lambert "38" Preservative Varnish, lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

NOTE—In place of "38" Preservative Varnish, where specified in the foregoing specifications, specify "110" Cabinet Varnish, where economy of first cost is necessary.

Dull finish without rubbing. Effects with Acid Stains — Above woods shall be first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), sanded lightly, then one coat of white shellac sanded lightly and one coat of Pratt & Lambert Dulkote.

Dull finish without rubbing. Effects with Oil Stains — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Alcolac sanded lightly and one coat of Pratt & Lambert Dulkote.

Simpler method, flat finish — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), sanded lightly, and one coat of Pratt & Lambert Dulkote.

White Pine, Yellow Pine, Oregon Pine, Spruce, Cypress, Fir, Tamarack, Whitewood, Poplar, Redwood, Gumwood, Basswood and Cedar Woodwork

Natural varnish finish — Above woods shall have one coat of Pratt & Lambert Alcolac and two coats of Pratt & Lambert "38" Preservative Varnish lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

Stained with Oil Stains varnish finish — Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Pratt & Lambert Alcolac and two coats of Pratt & Lambert "38" Preservative Varnish, lightly sanded between coats. Of final coat specify whether left in the natural gloss, rubbed to an eggshell finish or polished. (See Rubbing and Polishing.)

Stained with Acid Stains varnish finish — Above woods shall be first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), then one coat of white shellac

and two coats of Pratt & Lambert "38" Preservative Varnish lightly sanded between coats. Of final coat specify whether left in the natural gloss, ruhhed to an eggshell finish or polished. (See Rubbing and Polishing.) The finish with Acid Stains on these woods while artistic will not be as smooth and even as when an Oil Stain is used.

NOTE—In place of "38" Preservative Varnish, where specified in the foregoing specifications, specify "110" Cabinet Varnish, where economy of first cost is necessary.

Dull finish with Acid Stains no rubbing

Above woods shall he first sponged with cold water and sanded smooth when dry, then have one coat of Pratt & Lambert Acid Stain (specify color), then one coat of white shellac sanded lightly and one coat of Pratt & Lamhert Dulkote. The finish with Acid Stains on these woods while artistic will not be smooth and even as when an Oil Stain is used.

Dull finish with Oil Stains no rubbing

Above woods shall bave one coat of Pratt & Lambert Oil Stain (specify color), then one coat of Pratt & Lambert Alcolac or white shellac sanded lightly, then one coat of Pratt & Lambert Dulkote.

Simpler method, flat finish

Above woods shall have one coat of Pratt & Lambert Oil Stain (specify color), and one coat of Pratt & Lambert Dulkote.

NOTE—Specify Spar Finishing Varnish as a final coat on all woodwork around windows, in kitchens, laundries, etc., or wherever there is likely to be a great deal of moisture or water coming in contact with the finished surface. The undercoatings of such woodwork should be "38" Preservative Varnish.

Enamel work Vitralite

Tbe woodwork of (specify where) to be cleaned tboroughly and sanded perfectly smootb, then given a coat of lead and oil sanded smooth, and two coats of Pratt & Lambert Enamel Undercoating, eacb coat sanded lightly, tben one coat of Pratt & Lambert Vitralite Enamel; wben thoroughly hard, smooth off with steel wool or fine sandpaper, and apply a second coat of Pratt & Lambert Vitralite.

NOTE—Specify whether final coat is to be left in the gloss or rubbed to a dull finish.

NOTE—If a rubbed finish is desired, three coats of Vitralite are recommended, the final coat of Vitralite being rubbed with pumice stone and water.

Dull or Eggshell Enamel finish, without rubbing Vitralite

Tbe woodwork of (specify where) sball be cleaned tboroughly and sanded perfectly smooth, tben bave a coat of lead and oil, sanded smootb, then two coats of Pratt & Lambert Enamel Undercoating, sanded smooth, and then one or two coats of Pratt & Lambert Eggshell Vitralite.

NOTE—Where time is limited and work must be done hurriedly, specify Pratt & Lambert Krystaline White Enamel in place of Vitralite. This applies to the Eggshell Vitralite also, for Krystaline, too, is made in the eggshell way.

NOTE—Additional coats of Pratt & Lambert Enamel Undercoating and enamel may be specified, though the above specifications will produce results satisfactory to the most exacting.

NOTE—For work that is not to be rubbed, one coat of enamel will usually be found satisfactory.

NOTE—Over plastered surfaces a good sizing should be substituted for the lead and oil. Over metal the lead and oil should be omitted.

NOTE—If a tint is desired, the necessary color ground in Japan should be thoroughly mixed in the Pratt & Lambert Enamel Undercoating and Vitralite to bring them to the desired shade.

Floors

Oak and all open-grained wood floors

Tbese sball have one coat of Pratt & Lambert Paste Wood Filler (specify color) and two or three coats of Pratt & Lambert "61" Floor Varnisb ligbtly sanded between coats.

Maple, Pine and other close-grained wood floors

These shall bave three coats of Pratt & Lambert "61" Floor Varnisb, lightly sanded between coats.

Maple, Pine and other close-grained wood floors, stained

Tbese shall have one coat of Pratt & Lambert Oil Stain (specify color) and two coats of Pratt & Lambert "61" Floor Varnisb, ligbtly sanded between coats.

NOTE—Under *no* circumstances whatever, use shellac, liquid fillers, or any other varnishes under Pratt & Lambert "61" Floor Varnish on floors.

Rubbing and Polishing

Eggshell finish

An eggshell finisb is obtained by rubbing tbe final coat of varnisb with a piece of felt and pumice stone and water or crude oil. Water will give the finer finish, but oil will give a flatter finish and will do tbe work more quickly

Flat or dead finish

A flat or dead finisb is obtained by rubbing the final coat of varnish with hair clotb and pumice stone and crude oil.

Polish finish

A polished finish is obtained by first rubbing the final coat of varnish with a piece of felt and pumice stone and water, and then polishing witb rotten stone and water. The higher polish is obtained by rubbing with the palm of the hand.

Oil Rubbing Vitralite Undercoating, sanded smooth, and then one or two coats of Pratt & Lambert Eggshell Vitralite.

NOTE—Where time is limited and work must be done hurriedly, specify Pratt & Lambert Krystaline White Enamel in place of Vitralite. This applies to the Eggshell Vitralite also, for Krystaline, too, is made in the eggshell way.

NOTE—Additional coats of Pratt & Lambert Enamel Undercoating and enamel may be specified, though the above specifications will produce results satisfactory to the most exacting.

NOTE—For work that is not to be rubbed, one coat of enamel will usually be found satisfactory.

NOTE—Over plastered surfaces a good sizing should be substituted for the lead and oil. Over metal the lead and oil should be omitted.

NOTE—If a tint is desired, the necessary color ground in Japan should be thoroughly mixed in the Pratt & Lambert Enamel Undercoating and Vitralite to bring them to the desired shade.

Floors

Oak and all open-grained wood floors These shall have one coat of Pratt & Lambert Paste Wood Filler (specify color) and two or three coats of Pratt & Lambert "61" Floor Varnish lightly sanded between coats.

Maple, Pine and other close-grained wood floors These shall have three coats of Pratt & Lambert "61" Floor Varnish, lightly sanded between coats.

Maple, Pine and other close-grained wood floors, stained These shall have one coat of Pratt & Lambert Oil Stain (specify color) and two coats of Pratt & Lambert "61" Floor Varnish, lightly sanded between coats.

NOTE—Under *no* circumstances whatever, use shellac, liquid fillers, or any other varnishes under Pratt & Lambert "61" Floor Varnish on floors.

Rubbing and Polishing

Eggshell finish An eggshell finish is obtained by rubbing the final coat of varnish with a piece of felt and pumice stone and water or crude oil. Water will give the finer finish, but oil will give a flatter finish and will do the work more quickly

Flat or dead finish A flat or dead finish is obtained by rubbing the final coat of varnish with hair cloth and pumice stone and crude oil.

Polish finish A polished finish is obtained by first rubbing the final coat of varnish with a piece of felt and pumice stone and water, and then polishing with rotten stone and water. The higher polish is obtained by rubbing with the palm of the hand.

The Right Varnish in the Right Place

For front doors, porch ceilings and all exterior work use Pratt & Lambert Spar Finishing Varnish.

For woodwork in laundries, bathrooms, kitchens and about window openings, or all woodwork which is likely to be subjected to much moisture, use Pratt & Lambert Spar Finishing Varnish as a final coat.

For high grade interior work over light colored woods or the light tints of stains use Pratt & Lambert Palest Interior Varnish.

For the highest grade of interior work other than the lightest tone effects, use "38" Preservative Varnish.

For interior work of a less expensive character, where low first cost is essential as in many apartment buildings, schools, etc., use "110" Cabinet Varnish.

For interior work in hospitals, institutions, garages, laundries, stables, etc., use Hygienic Gloss Finish.

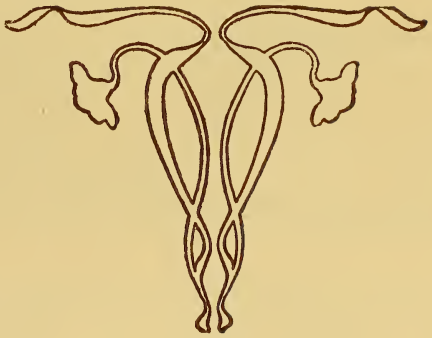
For floors use "61" Floor Varnish.

For flat or dead finishes (not the rubbed work) use Dulkote.

For high grade enamel work, whether on woodwork, plaster or metal surfaces, inside or outside, of buildings of any character use Vitralite Enamel.

For enamel work, where the conditions are such that there is not sufficient time to permit of the use of an enamel of the character of Vitralite, use Krystaline White Enamel.

For the undercoatings of enamel work, use Pratt & Lambert Enamel Undercoating, over a first coat of lead and oil.



Woods

The following woods are open-grained woods and require a Paste Filler when a smooth or a varnish finish is desired:

Oak
Ash
Chestnut
Mahogany
Elm
Baywood
Rosewood
Black Walnut
Butternut

The following are close-grained soft woods and Paste Fillers are not necessary:

White Pine
Yellow Pine
Oregon Pine
Spruce
Washington Fir
Tamarack
Cypress
Basswood
Whitewood
Poplar
California Redwood
Cedar
Gumwood

The following are close-grained woods and are sometimes finished with a Paste Filler; it is not generally deemed necessary, however:

Cherry
Birch
Maple
Circassian Walnut
Beech

Paste Fillers

Primarily, paste fillers are intended to fill or close up the pores in open-grained woods, so as to form a perfectly smooth, even surface for the finishing coats. In addition to this, when colored, they serve also in producing various color effects.

Many of the lighter monotone effects are the results of the colored fillers, without additional staining coats.

The best paste fillers are made of very finely ground silex, oils, dryers, the coloring matter, and some rubbing varnish.

A majority of paste fillers contain cornstarch, whiting and silver white and other soft, perishable and shrinkable material, and when so made are of little value.

The shrinking often found in otherwise perfectly finished varnished surfaces is usually due to the use of these inferior paste fillers. The pigment is absorbent and soon begins to shrink, and the varnish over it may give way with it.

One coat of paste filler rarely fills all the pores perfectly, and a certain amount comes away when being cleaned off. For very fine work, therefore, we recommend a second filling of the wood.

The use of inferior fillers, as well as the improper use of good fillers, is one of the many causes of "pitting."

Paste fillers should be allowed to "set" well before cleaning off.

The filler is "set" when it shows flat.

Paste fillers usually "set" in from twenty to thirty minutes after application.

Paste fillers are usually cleaned off with excelsior or waste —or a very good way is to use a pad of soft leather glued to a block of wood—by rubbing briskly across and into the grain. Never rub with the grain.

Paste fillers used in conjunction with oil stains, should be applied before the stain. Otherwise were the paste filler applied over the oil stain, some of the stain would be rubbed up with the filler while the filler was being cleaned off.

When used in conjunction with acid stains the filler must always be applied after the acid stain. The stain penetrates the wood and will not come up when the filler is cleaned off, as oil stains will.

Paste fillers over acid stains leave a more or less cloudy or muddy effect, after being wiped off. To avoid this, a thin coat of shellac should generally be applied over the stains before filling.

The filler is then seen only in open grain parts of the wood, being cleanly removed from the other portion. This will give a very much cleaner job.

This is important where there is much contrast between the colors of the stains and fillers.

Liquid Fillers

Liquid fillers are intended for use over soft or close-grained woods to stop suction or sinking and to form a surface over which to apply varnish.

Not being absorbed to any great extent by the wood and drying very hard, liquid fillers sand readily to a very smooth surface, and varnish coats applied over them "stand out" with a full body.

Varnish coats only, applied directly to the wood, will give a more durable finish, but the varnish soaks into the soft woods and it requires more coats to produce a finish equal in appearance to one where a liquid filler is first used.

As there is considerable difference between the cost of using a paste filler and a liquid filler, it should be clearly specified which is wanted.

Specifications frequently read "woodwork (or floors) must be filled and varnished." If this happens to refer to hard or open-grained woods, a liquid filler would not do, but paste filler not being specifically called for, advantage may be taken of this omission, a liquid filler used, the specifications complied with, with unsatisfactory results where the best were intended.

Notes
Liquid Fillers
Specify clearly

Shellac

Shellac dries quickly, sands well and stops absorption or sinking. To these characteristics may be ascribed its frequent use.

Where durability is a consideration, shellac has little value as a preservative, being greatly affected by moisture, whether from dampness of the woodwork, adjacent plaster or moisture laden atmosphere.

Its value is wholly impaired by direct contact with water.

Shellac should be used over stain if a paste filler is to follow the stain. The object of this is, that the filler may then be more cleanly removed from the hard portions of the wood, remaining only in the porous parts. In this way, the cloudy or muddy appearance sometimes seen is overcome, and the result is a sharper contrast in the colors and a clearer effect.

It is well to use white shellac as a first coat, where it is desired to preserve the natural color of the wood, and also over very spongy or soft woods.

If shellac is used it should always be applied in thin coats.

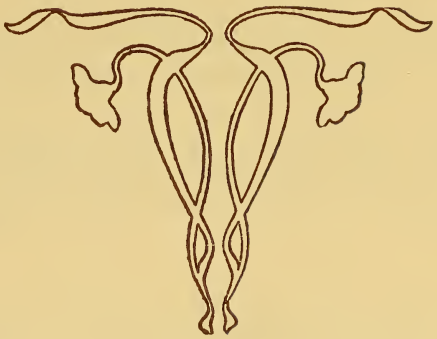
Shellac should never be used as a middle coat between two coats of varnish, as this results in a brittle, unyielding substance between two elastic substances, and cracking usually follows.

Never use shellac on floors which are to be varnished. Shellac has no place in the finishing of floors.

Do not use shellac in connection with any outside varnish work, nor on woodwork around windows, in kitchens, bathrooms, laundries, etc.

In the above, we refer to pure gum shellac cut in alcohol, wherever the use of shellac is permissible.

Only the pure shellac should ever be used. This, however, is very difficult to obtain, as the greater percentage of so-called pure shellacs on the market are adulterated, more or less, with resin or other deleterious substances. For this reason, if for no other, the use of shellacs should be avoided wherever possible.



Notes
Shellac

Stains

Stains may be classified according to the vehicle in which the colors are mixed: Oil Stains, Acid Stains, and Spirit Stains.

Spirit Stains, usually having alcohol as a vehicle, produce beautiful color effects, but are so impractical as to eliminate their consideration for the average work. The vehicle evaporates so quickly and the stains, in consequence, dry so rapidly, that it is impossible to apply them evenly on a surface of any dimensions. The wood becomes dark in some places and light in others and "laps" show plainly, and any attempts at equalizing usually make matters worse.

One of the most serious objections to the use of Spirit Stains is their tendency to "bleed," that is, their color comes through the varnish finish.

One Coat Stains and Fillers

Most of the one-application-rub-off-and-done finishes are either oil or spirit stains with a little wax in them to give surface.

They are not wood preservatives in any sense of the word —as well use any oil stain and put no finish or preservative over it.

Acid Stains

Acid Stains are the most satisfactory.

They produce beautiful, clear, transparent colors, are simple to use, can be applied evenly and quickly on woods of all kinds and will permit any method of finishing over them.

Acid Stains have a tendency to raise the grain, particularly of soft woods, but this is easily overcome by sponging the wood with clear water and sanding smooth before applying the stain. This should be done where smooth finishes are desired.

Oil Stains

Oil Stains are used principally for soft or close-grained woods.

They do not raise the grain and for this reason are economical in producing the smooth finishes.

Splendid effects may be obtained with oil stains, but the colors are less clear and transparent than those produced by acid stains.

Notes
Stains

Proper Conditions

It is of great importance to have the conditions, when finishing woodwork, as nearly right as possible.

Improper conditions are frequently the cause of unsatisfactory results, and because so often neglected and so little understood, result in the condemnation, most unjustly, of an honest and good varnish.

Proper light, temperature and ventilation are important factors in the drying and hardening of varnishes.

Varnish is retarded in drying and hardening when applied in a damp room. Extremely hot, humid weather also keeps it soft for some time.

Temperature between 70 and 75 degrees Fahrenheit is conducive to the best results.

Inspection of First Coat at Mill

Inspection by the Architect or his Superintendent, and by the Trim Manufacturer, of the filling and first coating of the trim at the "mill," is quite as important as the inspection of the finishing of the work done by the Painter.

Exterior Work Suggestions Pertaining to Varnishing

All exterior woodwork that is to be varnished should be coated on the back with linseed oil, or with lead and oil paint.

All exposed edges or ends, as of door casings or window frames that may rest on stone sills and are exposed to moisture, should be protected with a coat of linseed oil.

Avoid, as much as possible, the exposure of varnish on exterior work to sun or dampness during process of drying, as blistering is likely to result.

Spar Varnish is not a rubbing varnish, but will permit of rubbing, after becoming perfectly dry and hard, which will take from four to six days, according to the weather conditions.

Never use shellac or cheap first coaters on any outside varnish work.

Notes
Proper Conditions

Varnishes

Spirit Varnishes

When varnish is spoken of, an oil varnish is universally meant.

There is another distinctly different kind, called spirit varnish.

In spirit varnish, the gum is "cold cut," or simply dissolved cold in alcohol or turpentine.

The gums most commonly used in spirit varnishes are Shellac, Damar and Sandarac.

These varnishes are usually spoken of without the additional word "varnish," but when the term "shellac" or "Damar" is used, Damar Varnish or Shellac Varnish is meant.

Spirit Varnishes are totally unfit for outside use, or where moisture will reach them, for when they dry, a thin coating of gum of a brittle and unstable nature, which has no durability, remains on the wood.

Damar gum is a soft perishable gum and its only virtue is paleness.

It is on account of its paleness that it is frequently used in making white enamel, and as a finishing coat over white ground work for an enamel finish. It is unsatisfactory as it works very hard under the brush, requiring more labor than does a high grade enamel, and brush marks and laps show plainly.

Enamel made with Damar Varnish is not durable. It will soon crack and will not stand moisture.]

Properties The oil in a varnish gives durability and life.

The wearing qualities of a varnish are, therefore, nearly in proportion to the percentage of oil it contains, excepting that the hard fossil gums used are also factors.

An outside varnish must contain a large percentage of oil for durability, hence it dries slowly and does not lend itself readily to rubbing.

Interior varnishes contain less oil, for they must dry quickly and hard, to be suitable for rubbing and polishing, and durability must be sacrificed, to the extent at least of procuring other essentials.

A floor varnish should be extremely durable and elastic, and must dry harder than an outside varnish, but it does not require the fitness for rubbing in the same degree as does a varnish for interior trim work.

Thinning If necessary to thin a varnish, it should be done by the addition of pure turpentine. Oil, liquid dryers or other varnishes should never be used. It is best to have both the turpentine and the varnish warm when thinning the varnish, and then to let it stand over night before using.

Covering Capacity A gallon of Pratt & Lambert Spar Finishing Varnish will cover approximately 700 square feet of surface with one coat.

A gallon of Pratt & Lambert "38" Preservative Varnish, "110" Cabinet Varnish or Palest Interior Varnish will cover approximately 600 square feet of surface with one coat.

A gallon of Pratt & Lambert Hygienic Gloss Finish or of Pratt & Lambert Public Building Varnish will cover approximately 700 square feet of surface with one coat.

A gallon of Pratt & Lambert "61" Floor Varnish will cover approximately 600 square feet of surface with one coat. (Owing to absorption, the first coat of varnish applied to the bare floor will not cover quite this amount.)

A gallon of Pratt & Lambert Alcolac will cover approximately 500 square feet of surface, with one coat.

A gallon of Pratt & Lambert Dulkote will cover approximately between 700 and 800 square feet of surface with one coat.

A gallon of Pratt & Lambert Krystaline White Enamel will cover approximately 500 square feet of surface with one coat.

A gallon of Pratt & Lambert Vitralite Enamel will cover approximately 800 square feet of surface with one coat.

A gallon of Pratt & Lambert Enamel Undercoating will cover approximately between 600 and 700 square feet of surface with one coat.

Varnish Turning White

Varnish turning white from dampness or from the action of water upon it, after it is dry, is generally an evidence of inferior quality.

Cheap, brittle, quick drying varnishes are easily affected in this way.

The powdering white under friction by rubbing briskly with the fingers is another indisputable evidence of poor quality.

Cheap Varnishes for undercoatings

Cheap, brittle varnishes should never be used as undercoats, for they impair the durability of the finish, even when covered with succeeding coats of good, elastic, durable varnish.

Cheap undercoatings are not in the interest of economy. The cost of application, the chief item of expense, is the same or more while the finish is not lasting or satisfactory in any way.

Chilling of Varnish

Varnish should never be applied when chilled, as it becomes "specky" and the specks will show plainly on the varnished surface.

These specks look like particles of undissolved gum. This is not the case, however, as they are due to the congealing of the oil.

Chilling is caused by exposure to cold, either during shipment, or storage in cold places.

Remedy for Chilling The remedy for chilled varnish is to keep it in a warm place, until entirely restored to its normal condition, when the specks will disappear. A quick way is to immerse the container in hot water until the varnish is again in proper condition.

Blooming This is due usually to an excessive amount of moisture in the atmosphere, and is sometimes caused by poor ventilation. Varnishes containing an excessive amount of acidity, and also varnishes made with certain kinds of dryers are most easily affected by these conditions.

Our particular process for eliminating the acid from varnish gums makes our varnishes less likely to bloom than others.

Remedy for Blooming Blooming can be easily overcome and the varnish brought back to its original condition by rubbing the finished surface with crude oil and water, taking a piece of ordinary waste and first dipping it in water, then in the oil and rubbing the bloomed surface. The water has a tendency to clean the finish, and the oil to polish and bring it back to its original lustre. There is no permanent relief for blooming, however. Mahogany and Cherry and other dark colored woods show blooming more plainly than the lighter woods or finishes.

Crawling Crawling is caused by applying the varnish too heavily, or by exposure to sudden changes of temperature during process of drying, or by applying varnish over a cold surface or over undercoatings that are not thoroughly dry, or by application over a surface that is oily, greasy or damp, or over one that has not been properly sanded and is too glossy. This condition is frequently met with in cold weather, in the finishing of houses that are not properly heated.

Sweating By Sweating is meant that peculiar condition of a rubbed finished surface when it takes on the appearance of being wet or becomes glossy. Sweating is due to rubbing before the varnish is sufficiently hard.

Deadening or Sinking This is due to the undercoats not being allowed sufficient time to dry, causing the finishing coat to become absorbed in the course of hardening. Insufficient undercoats will also cause the finishing coat to sink away. Another cause of this trouble is the use of varnishes containing wood oils which have not been properly treated. Improper filling also causes varnish to sink away and lose its lustre. This is also caused by the use of unseasoned lumber.

Blistering Blistering may be caused by heat, or direct exposure to the sun during process of drying, by sap or dampness of the wood, or by the undercoating being damp, when finishing coats are applied.

Pitting Pitting is most generally caused by draughts striking the varnish during the process of drying, also by thinning the varnish with improper thinners, or by

reason of a damp or oily surface under the finishing coats, also by improperly filled work, or use of inferior paste fillers.

Cracking Cracking is caused by applying varnish over undercoats that have not dried, or by varnish being applied too heavily, or by applying a quick drying varnish over a more elastic one. Brittle varnishes, or those made of inferior gums, crack easily by reason of sudden changes of temperature.

Sagging Sagging is due to applying varnish too heavily or unevenly.

Flaking Flaking is the condition very frequently met with, where varnish has been applied over a surface from which a previous finish has been removed with a varnish remover. Under these conditions, the flaking is due to the fact that the varnish remover was not thoroughly cleaned off, some of the wax which is found in practically all varnish removers remaining on the surface, causing the flaking of the varnish applied over it.

Notes on Finishing and Care of Floors

The proper care and preparation of a floor before applying a paste filler or varnish is an important factor.

Protection Floors should be well protected with paper covering as soon as laid, and until ready to be finished.

Floors must be sanded perfectly smooth before the finish is applied.

After sanding, floors should be well cleaned of all dirt, with a soft brush or cloth.

Cleaning and Removing Stains If a floor has become soiled in any way, try to remove the stains, wherever possible, by sanding.

Dirt, stains and blemishes in a floor cannot be hidden by varnish, no matter how many coats are applied.

Removing stains by washing should be done only where this cannot be done by sanding.

If washing is found necessary, use clear water. If this will not remove the stain, add a little ammonia or alcohol to the water (about a pint to a pail).

Washing with turpentine will be found a safe and effective way to remove stains from new floors. Paint spots can usually be removed by washing with turpentine and sanding.

Grease spots are most easily removed with alcohol.

Drying After washing, the floor must be allowed to become thoroughly dry before commencing the finish. Allow twenty-four hours at least, with proper ventilation.

There must be absolutely no moisture in the wood, therefore it is necessary to guard against moisture prevailing in every new building, by having the room well and evenly heated and properly ventilated.

The floor dries more slowly than any other part of the room, on account of the lower temperature prevailing there.

Above all, avoid use of soaps, patent cleaners, potash, lye, etc., when cleaning floors. The alkali and fats contained in these are absorbed by the wood, cannot be entirely removed and will eventually affect the finish.

Filling Only open-grained wood floors should ever be filled, and then only a good paste filler should be used. The filler must be cleanly removed when it has "set," usually about fifteen or twenty minutes, using excelsior or waste, rubbing across the grain, so as to remove as little of the filler from the grain as possible.

After filling the floor and allowing it to dry, sand well, here rubbing with the grain, and dust should then be removed with a soft brush or cloth, allowing sufficient time for the particles of dust in the air to settle.

Sanding Intermediate coats of varnish should be lightly sanded with 00 sandpaper.

Varnishing For the best results each coat of varnish should be allowed time to become thoroughly hard before its succeeding coat is applied. Under favorable conditions, forty-eight hours are none too long, and more will be found advisable. Draughts during process of drying will affect the varnish.

Rubbing The final coat may be left in the natural gloss or may be brought to a dull finish by rubbing with pumice stone and oil.

Rubbing is not essential, as its effect is soon acquired by frequent cleaning, the natural gloss in time taking on the appearance of a rubbed finish.

Use without Thinning Floor varnish should be used just as it is received in the can from the manufacturer.

Thinning of floor varnish will affect the durability of the finish and is inexcusable, as our varnish is made of the right consistency for use.

Avoid Liquid Fillers Under no conditions use shellac or liquid fillers on floors that are to be varnished.

Coloring Staining or coloring Oak or open-grained floors, is best done by adding stain or coloring matter to the paste filler. Oil stains only should be used for this purpose on Maple, Pine, or other close-grained floors, omitting the filler.

If varnish is used over a painted floor, the final coat of paint must be perfectly flat—that is, free from oil.

Care of Floors

To keep the varnished floor in perfect condition, it should be wiped once a month with skimmed milk and a soft cloth. Cold water only should be used in washing varnished floors.

A varnished floor should be given a coat of Pratt & Lambert "61" Floor Varnish, about six months after it is finished, and thereafter a coat of Pratt & Lambert "61" Floor Varnish about once a year.

Where a varnished floor is subject to extremely hard usage, as in passage-ways, stairs, etc., it may be advisable to re-coat more often according to its condition. The finish should not be allowed to wear bare in spots, and with a little watching and re-coating, this can be avoided.

Before re-coating, wash the floor with clear tepid water, wipe thoroughly dry and then allow it to stand during the day. Take care to keep it as free from dust as possible. When ready to varnish, which for convenience should be done toward evening, sand the surface lightly and dust clean, being careful to keep dust from rising, and then apply a coat of Pratt & Lambert "61" Floor Varnish.

The floor will be ready for use the next morning, and the wiping off with skimmed milk is then recommended. The objection is sometimes raised in connection with

varnished floors, that in time after repeated refinishing, the floor takes on an old or unclean look, or rather that it loses the bright, fresh appearance of the new wood.

This is true in time, but how much more so in the case of a wax finish which does not harden and into which the dirt and dust are continually ground. It cannot be washed off with water, and the removal of the dirt necessitates the frequent removal of the entire finish.

In the case of a properly varnished floor, the dust and dirt remain on the surface and can be readily removed by washing, and the floor kept fresh and clean for years, at least, and when at last the floor does become somewhat dark and dingy looking, the entire varnish finish may be very easily removed and the wood restored to its original fresh appearance, as when new, by the use of a varnish remover.

Varnish Remover

For such purposes our remover known as Expedite Paint and Varnish Remover may be used with entire satisfaction.

This is a powerful remover which will take off cleanly all varnish or paint, leaving the wood in its original natural condition, without in any way injuring it.

While all paint and varnish removers have an objectionable odor, Expedite is comparatively free from it, and though a powerful agent in removing paint and varnish, will not affect the hands of the user.